

Amendments to the Claims:

1. (Original) A method of using a centrifuge to separate a light material that is within an input mixture from a heavy material that is within the input mixture, while at the same time independently controlling a speed of rotation of the centrifuge and a speed of removal of the heavy material from the centrifuge, comprising the steps of:

providing a first and a second arm assembly aligned on an arm-axis and that are rotatable in a plane extending generally perpendicular to a rotation-axis;

providing that each of said first and second arm assemblies includes a tubular-housing having a closed outer end, an intermediate tube having an open outer end, and an inner tube having an open outer end;

providing that said inner tube of each arm assembly is of a given length;

providing that said intermediate tube of each arm assembly is of a length that is less than said given length;

providing that an outer end of said tubular-housing of each arm assembly is spaced from said outer end of said intermediate tube and from said outer end of said inner tube;

providing an input mixture flow path that communicates with a cylindrical space between said intermediate tube and said inner tube of each arm assembly;

providing a heavy material flow path that communicates with a space within said inner tube of each arm assembly;

providing a light material flow path that communicates with a cylindrical space between said intermediate tube and said tubular-housing of each arm assembly;

providing a conveyer screw within the inner tube of each arm assembly;

providing first speed controllable drive means connected to effect rotation of said first and second arm assemblies about said rotation-axis; and

providing second speed controllable drive means connected to effect rotation of said conveyer screws.

2. (Original) The method of claim 1 wherein said first speed-controllable drive means is an electric motor and wherein said second speed-controllable drive means is a hydraulic motor.

3. (Original) The method of claim 2 wherein said rotation-axis extends in a horizontal direction.

4. (Original) In a centrifuge wherein a light material within an input mixture is separated from a heavy material within the input mixture, the centrifuge including a first and

a second axially aligned arm assembly rotatable in a plane that extends generally perpendicular to an axis of rotation, wherein each of the first and second arm assemblies includes a tubular-housing having a closed outer end, an intermediate tube having an open outer end, and an inner tube having an open outer end, wherein the inner tube of each arm assembly is of a given length, wherein the intermediate tube of each arm assembly is of a length that is less than the inner tube, wherein the outer end of the tubular-housing of each arm assembly is spaced from the outer end of the intermediate tube and from the outer end of the inner tube, wherein an input mixture input-flow-path communicates with a space between the intermediate tube and the inner tube of each arm assembly, wherein a heavy material output-flow-path communicates with a space within the inner tube of each arm assembly, and wherein a light material output-flow-path communicates with a space between the intermediate tube and the tubular-housing of each arm assembly, a method of mounting the inner ends of the tubular-housing, the intermediate tube and the inner tube of each arm assembly to a central member that rotates about the axis of rotation, comprising the steps of:

securing the inner end of the tubular-housing of each arm assembly to opposite sides of the central member,

providing a first mounting ring on the inner end of the tubular housing of each arm assembly, the first mounting ring having an inward-facing portion;

providing a second mounting ring on an inner end of the intermediate tube of each arm assembly, the second mounting ring having an inward-facing portion, and the second mounting ring having an outward facing portion secured to the inward-facing portion of the first mounting ring; and

providing a third mounting ring on an inner end of the inner tube of each arm assembly, the third mounting ring having an inward-facing portion secured to the outward-facing portion of the second mounting ring.

5. (Original) The method of claim 4 wherein and the outward facing portion of the second mounting ring physically underlies the inward-facing portion of the first mounting ring, and wherein the outward-facing portion of the second mounting ring overlies the inward-facing portion of the third mounting ring.

6. (Original) The method of claim 5 wherein the axis of rotation is a horizontal axis.

7.-60. (Withdrawn)